Norm Michaels
Philips Products Ventline Division
902 South Division Street
Bristol, Indiana 46507

Re: Registered Construction and Operation Status,
039-12332-00070

Dear Mr. Michaels:

The application from Philips Products Ventline Division received on May 31, 2000, has been reviewed. Based on the data submitted and the provisions in 326 IAC 2-5.5, it has been determined that the following venting equipment manufacturing plant to be located at 902 South Division Street, Bristol, Indiana 46507, is classified as registered:

(a) Three (3) natural-gas-fired ovens rated at 2.5 million British thermal units (MMBtu) per hour combined (previously permitted).

(b) One (1) natural-gas-fired washer rated at 5.3 MMBtu per hour (previously permitted).

(c) Sixteen (16) natural-gas-fired space heaters rated at 240,000 Btu per hour each (previously permitted) .

(d) One (1) powder paint system using a maximum of 62 pounds of powder paint per hour and controlled with a collection system (previously considered an exempted facility).

(e) One (1) adhesive application system identified as Process B (previously considered an exempted facility).

(f) One (1) acrylic seam sealer system identified as Process C (previously considered an exempted facility).

(g) Welding processes controlled by smoke extractors (previously considered an exempted facility).

(h) One (1) caulk application system identified as Process A (previously unpermitted).

The following conditions shall be applicable:

326 IAC 2-6 (Emission Reporting)
This source is subject to 326 IAC 2-6 (Emission Reporting), because it has the potential to emit more than ten (10) tons per year of VOC. Pursuant to this rule, the owner/operator of the source must annually submit an emission statement for the source. The annual statement must be received by April 15 of each year and contain the minimum requirement as specified in 326 IAC 2-6-

4. The submittal should cover the period defined in 326 IAC 2-6-2(8)(Emission Statement Operating Year).

326 IAC 5-1 (Visible Emissions Limitations)
Pursuant to 326 IAC 5-1-2 (Opacity Limitations), except as provided in 326 IAC 5-1-3 (Temporary Exemptions), opacity shall meet the following, unless otherwise stated in this permit:

(a) Opacity shall not exceed an average of forty percent (40%) any one (1) six (6) minute averaging period as determined in 326 IAC 5-1-4.

(b) Opacity shall not exceed sixty percent (60%) for more than a cumulative total of fifteen (15) minutes (sixty (60) readings) as measured according to 40 CFR 60, Appendix A, Method 9 or fifteen (15) one (1) minute nonoverlapping integrated averages for a continuous opacity monitor) in a six (6) hour period.

326 IAC 6-4 (Fugitive Dust Emissions)
Pursuant to this rule, the permittee shall be in violation of 326 IAC 6-4 (Fugitive Dust Emissions) of any of the criteria specified in 326 IAC 6-4-2(1) through (4) are violated. Observations of visible emissions crossing the property line of a source at or near ground level must be made by a qualified representative of IDEM [326 IAC 6-4-5(c)].

326 IAC 8-2-9 (Miscellaneous Metal Coating)
Pursuant to 326 IAC 8-2-9 (Miscellaneous Metal Coating Operations), the volatile organic compound (VOC) content of each coating delivered to the applicator for processes A, B, and C shall be limited to 3.5 pounds of VOCs per gallon of coating less water, for extreme performance coatings. The coatings used for processes A, B, and C are sealants and an adhesive. These coatings will be exposed to outdoor weather at all times and therefore, are considered extreme performance coatings.

Solvent sprayed from application equipment during cleanup or color changes shall be directed into containers. Such containers shall be closed as soon as such solvent spraying is complete, and the waste solvent shall be disposed of in such a manner that evaporation is minimized.

Based on the MSDS submitted by the source and calculations made, the spray booth is in compliance with this requirement.

326 IAC 6-3-2 (Process Operations)
The particulate matter (PM) from the powder paint process shall be limited to 0.4 lbs/hr. The particulate matter (PM) from the welding processes shall be limited to 6.2 lbs/hr.

Interpolation and extrapolation of the data for the process weight rate up to sixty thousand (60,000) pounds per hour was developed using the equation:

$E = 4.10\ P^{0.67}$ where E = rate of emission in pounds per hour and
P = process weight rate in tons per hour

The collection system shall be in operation at all times the powder paint process is in operation, and the smoke extractors shall be in operation at all times the welding processes are in operation.

This registration combines several previous permits issued to this source with unpermitted units. The source may operate according to 326 IAC 2-5.5.

An authorized individual shall provide an annual notice to the Office of Air Management that the source is in operation and in compliance with this registration pursuant to 326 IAC 2-5.5-4(a)(3). The annual notice shall be submitted to:

Compliance Data Section
Office of Air Management
100 North Senate Avenue
P.O. Box 6015
Indianapolis, IN 46206-6015

no later than March 1 of each year, with the annual notice being submitted in the format attached.

An application or notification shall be submitted in accordance with 326 IAC 2 to the Office of Air Management (OAM) if the source proposes to construct new emission units, modify existing emission units, or otherwise modify the source.

Sincerely,

Paul Dubenetzky, Chief
Permits Branch
Office of Air Management

ERG/KH

cc: File - Elkhart County
Elkhart County Health Department
Air Compliance - Greg Wingstrom
Permit Tracking - Janet Mobley
Technical Support and Modeling - Michele Boner
Compliance Data Section - Karen Nowak

Registration

This form should be used to comply with the notification requirements under 326 IAC 2-5.1-2(f)(3) or 326 IAC 2-5.5-4(a)(3).

Company Name:	**Philips Products Ventline Division**
Address:	**902 South Division Street**
City:	**Bristol, Indiana**
Authorized individual:	**James D. Elser**
Phone #:	**(219) 848-4491**
Registration #:	**039-12332-00070**

I hereby certify that Philips Products Ventline Division is still in operation and is in compliance with the requirements of Registration 039-12332-00070.

Name (typed):
Title:
Signature:
Date:

Indiana Department of Environmental Management
Office of Air Management

Technical Support Document (TSD) for a Registration

Source Background and Description

Source Name:	**Philips Products Ventline Division**
Source Location:	**902 S. Division Street, Bristol, Indiana 46507**
County:	**Elkhart**
SIC Code:	**3444**
Operation Permit No.:	**039-12332-00070**
Permit Reviewer:	**ERG/JTW & KH**

The Office of Air Management (OAM) has reviewed an application from Philips Products Ventline Division relating to the operation of a venting equipment manufacturing plant.

Permitted Emission Units and Pollution Control Equipment

The source consists of the following permitted emission units and pollution control devices:

(a) Three (3) natural-gas-fired ovens rated at 2.5 million British thermal units (MMBtu) per hour combined.

(b) One (1) natural-gas-fired washer rated at 5.3 MMBtu per hour.

(c) Sixteen (16) natural-gas-fired space heaters rated at 240,000 Btu per hour each.

(d) One (1) powder paint system using a maximum of 62 pounds of powder paint per hour and controlled with a collection system (previously considered an exempted facility).

(e) One (1) adhesive application system identified as Process B (previously considered an exempted facility).

(f) One (1) acrylic seam sealer system identified as Process C (previously considered an exempted facility).

(g) Welding processes controlled by smoke extractors (previously considered an exempted facility).

Unpermitted Emission Units and Pollution Control Equipment

The source also consists of the following unpermitted facility/unit:

(a) One (1) caulk application system identified as Process A.

Existing Approvals

The source has been operating under previous approvals including, but not limited to, the following:

OP 20-02-91-0665 issued on 09/14/87.

All conditions from previous approvals were incorporated into this permit except the following:

OP 20-02-91-0665 issued on 09/14/87.

Conditions 4 and 5: Particulate matter and VOC requirements related to surface coating facilities.

Reasons not incorporated: The surface coating facilities were removed and replaced with the provider paint system listed under *Unpermitted Emission Units and Pollution Control Equipment.*

Air Pollution Control Justification as an Integral Part of the Process

Below is a justification such that the collection system be considered as an integral part of the powder paint process.

The collection system collects and recycles the powder paint so that it can be reused. The recycling of the powder is necessary for the powder paint system to be economically practical.

IDEM, OAM has evaluated the justifications and agreed that the collection system will be considered as an integral part of the powder paint process. Therefore, the permitting level will be determined using the potential to emit after the collection system. Operating conditions in the proposed permit will specify that this collection system shall operate at all times when the powder paint process is in operation.

Enforcement Issue

(a) IDEM is aware that equipment has been constructed and operated prior to receipt of the proper permit. The subject equipment is listed in this Technical Support Document under the condition entitled *Unpermitted Emission Units and Pollution Control Equipment.*

(b) IDEM is reviewing this matter and will take appropriate action. This proposed permit is intended to satisfy the requirements of the construction permit rules.

Recommendation

The staff recommends to the Commissioner that the construction and operation be approved. This recommendation is based on the following facts and conditions:

Unless otherwise stated, information used in this review was derived from the application and additional information submitted by the applicant.

An application for the purposes of this review was received on May 31, 2000, with additional information received on June 26, 2000, July 28, 2000, and August 21, 2000.

Emission Calculations

See Appendix A of this document for detailed emissions calculations. (Appendix A, pages 1 through 5).

Potential To Emit

Pursuant to 326 IAC 2-1.1-1(16), Potential to Emit is defined as "the maximum capacity of a stationary source or emissions unit to emit any air pollutant under its physical and operational design. Any physical or operational limitation on the capacity of a source to emit an air pollutant, including air pollution control equipment and restrictions on hours of operation or type or amount of material combusted, stored, or processed shall be treated as part of its design if the limitation is enforceable by the U. S. EPA, the department, or the appropriate local air pollution control agency."

Pollutant	Potential To Emit (tons/year)
PM	1.9
PM-10	1.9
SO_2	0
VOC	20.8
CO	4.0
NO_x	4.8

HAP's	Potential To Emit (tons/year)
Methyl Ethyl Ketone	4.0
Toluene	1.7
Xylene	0.3
Phenol	0.2
Cresol	0.07
Formaldehyde	0.02
Maganese	0.05
Other	0.09
TOTAL	6.4

(a) The potential to emit (as defined in 326 IAC 2-7-1(29)) of each criteria pollutant is less than one hundred (100) tons per year. Therefore, the source is not subject to the provisions of 326 IAC 2-7.

(b) The potential to emit (as defined in 326 IAC 2-7-1(29)) of any single HAP is less than ten (10) tons per year and the potential to emit (as defined in 326 IAC 2-7-1(29)) of a combination of HAPs is less than twenty-five (25) tons per year. Therefore, the source is not subject to the provisions of 326 IAC 2-7.

Actual Emissions

No previous emission data has been received from this source.

Limited Potential to Emit

The table below summarizes the total potential to emit, reflecting all limits, of the significant emission units. The potential to emit for PM and PM10 is limited by the PM rule (326 IAC 6-3-2) and the potential to emit shown reflects the use of a collection system with the powder paint system and smoke extractors with the welding processes to comply with this rule.

	Limited Potential to Emit (tons/year)						
Process/facility	PM	PM-10	SO_2	VOC	CO	NO_X	HAPs
Powder Paint*	0.07	0.07	0	0	0	0	0
Processes A, B & C	0	0	0	20.5	0	0	6.32
Combustion	0.4	0.4	0	0.3	4.0	4.8	0.09
Welding Processes**	0.07	0.07	0	0	0	0	0.05
Total Emissions	0.54	0.54	0	20.8	4.0	4.8	6.4

*The filterhouse used with the powder paint process has an efficiency of 99.9%
**The smoke extractors used with the welding process has an efficiency of 95%.

County Attainment Status

The source is located in Elkhart County.

Pollutant	Status
PM-10	attainment
SO_2	attainment
NO_2	attainment
Ozone	maintenance
CO	attainment
Lead	attainment

(a) Volatile organic compounds (VOC) and oxides of nitrogen (NOx) are precursors for the formation of ozone. Therefore, VOC emissions are considered when evaluating the rule applicability relating to the ozone standards. Elkhart County has been designated as attainment or unclassifiable for ozone. Therefore, VOC and NOx emissions were reviewed pursuant to the requirements for Prevention of Significant Deterioration (PSD), 326 IAC 2-2 and 40 CFR 52.21.

(b) Elkhart County has been classified as attainment or unclassifiable for all other pollutants. Therefore, these emissions were reviewed pursuant to the requirements for Prevention of Significant Deterioration (PSD), 326 IAC 2-2 and 40 CFR 52.21.

Source Status

Existing Source PSD, Part 70 or FESOP Definition (emissions after controls, based on 8,760 hours of operation per year at rated capacity and/ or as otherwise limited):

Pollutant	Emissions (ton/yr)
PM	0.54
PM10	0.54
SO_2	0
VOC	20.8
CO	4.0
NO_x	4.8

(a) This new source is **not** a major stationary source because no attainment pollutant is emitted at a rate of 250 tons per year or greater and it is not in one of the 28 listed source categories.

(b) These emissions were based on the limited emissions shown in section *Limited Potential to Emit.*

Part 70 Permit Determination

326 IAC 2-7 (Part 70 Permit Program)

This existing source, including the emissions from this permit MSOP 039-12332-00070, is still not subject to the Part 70 Permit requirements because the potential to emit (PTE) of:

(a) Each criteria pollutant is less than 100 tons per year,

(b) A single hazardous air pollutant (HAP) is less than 10 tons per year, and

(c) Any combination of HAPs is less than 25 tons/year.

This status is based on all the air approvals issued to the source. This status has been verified by the OAM inspector assigned to the source.

Federal Rule Applicability

(a) There are no New Source Performance Standards (NSPS) (326 IAC 12 and 40 CFR Part 60) applicable to this source.

(b) There are no National Emission Standards for Hazardous Air Pollutants (NESHAPs) (326 IAC 14 and 40 CFR 63) applicable to this source.

State Rule Applicability - Entire Source

326 IAC 2-6 (Emission Reporting)

This source is subject to 326 IAC 2-6 (Emission Reporting), because it has the potential to emit more than ten (10) tons per year of VOC. Pursuant to this rule, the owner/operator of the source must annually submit an emission statement for the source. The annual statement must be received by April 15 of each year and contain the minimum requirement as specified in 326 IAC 2-6-4. The submittal should cover the period defined in 326 IAC 2-6-2(8)(Emission Statement Operating Year).

326 IAC 2-4.1 (Major Sources of Hazardous Air Pollutants)

This source is not a major source of Hazardous Air Pollutants (HAP) and it has been an existing source since 1996. Therefore, 326 IAC 2-4.1 does not apply.

326 IAC 5-1 (Visible Emissions Limitations)

Pursuant to 326 IAC 5-1-2 (Opacity Limitations), except as provided in 326 IAC 5-1-3 (Temporary Exemptions), opacity shall meet the following, unless otherwise stated in this permit:

(a) Opacity shall not exceed an average of forty percent (40%) any one (1) six (6) minute averaging period as determined in 326 IAC 5-1-4.

(b) Opacity shall not exceed sixty percent (60%) for more than a cumulative total of fifteen (15) minutes (sixty (60) readings) as measured according to 40 CFR 60, Appendix A, Method 9 or fifteen (15) one (1) minute nonoverlapping integrated averages for a continuous opacity monitor) in a six (6) hour period.

326 IAC 6-4 (Fugitive Dust Emissions)

Pursuant to this rule, the permittee shall be in violation of 326 IAC 6-4 (Fugitive Dust Emissions) of any of the criteria specified in 326 IAC 6-4-2(1) through (4) are violated. Observations of visible emissions crossing the property line of a source at or near ground level must be made by a qualified representative of IDEM [326 IAC 6-4-5(c)].

State Rule Applicability - Individual Facilities

326 IAC 8-2-9 (Miscellaneous Metal Coating)

Pursuant to 326 IAC 8-2-9 (Miscellaneous Metal Coating Operations), the volatile organic compound (VOC) content of each coating delivered to the applicator for processes A, B, and C shall be limited to 3.5 pounds of VOCs per gallon of coating less water, for extreme performance coatings. The coatings used for processes A, B, and C are sealants and an adhesive. These coatings will be exposed to outdoor weather at all times and therefore, are considered extreme performance coatings.

Solvent sprayed from application equipment during cleanup or color changes shall be directed into containers. Such containers shall be closed as soon as such solvent spraying is complete, and the waste solvent shall be disposed of in such a manner that evaporation is minimized.

Based on the MSDS submitted by the source and calculations made, the spray booth is in compliance with this requirement.

326 IAC 6-3-2 (Process Operations)

The particulate matter (PM) from the powder paint process shall be limited to 0.4 lbs/hr. The particulate matter (PM) from the welding processes shall be limited to 6.2 lbs/hr.

Interpolation and extrapolation of the data for the process weight rate up to sixty thousand (60,000) pounds per hour was developed using the equation:

$E = 4.10\ P^{0.67}$ where E = rate of emission in pounds per hour and
P = process weight rate in tons per hour

The collection system shall be in operation at all times the powder paint process is in operation, and the smoke extractors shall be in operation at all times the welding processes are in operation.

Conclusion

The construction and operation of this venting equipment manufacturing plant shall be subject to the conditions of the attached proposed New Source Construction and Minor Source Operating Permit MSOP 039-12332-00070.

Appendix A: Emissions Calculations
Natural Gas Combustion Only
MM BTU/HR <100
Ovens and Heaters

Company Name: Ventline
Address City IN Zip: 902 South Division St., Bristol, IN 46507
CP: 039-12332-00070
Plt ID: 039-00070
Reviewer: ERG/jtw
Date: July 6, 2000

Heat Input Capacity MMBtu/hr	Potential Throughput MMCF/yr
11.0	96.4

	Pollutant					
	PM*	PM10*	SO2	NOx	VOC	CO
Emission Factor in lb/MMCF	7.6	7.6	0.6	100.0 **see below	5.5	84.0
Potential Emission in tons/yr	0.4	0.4	0.0	4.8	0.3	4.0

*PM and PM10 emission factors are combined filterable and condensable PM and PM10 respectively.
**Emission Factors for NOx: Uncontrolled = 100, Low NOx Burner = 50, Low NOx Burners/Flue gas recirculation = 32

Methodology

All emission factors are based on normal firing.
MMBtu = 1,000,000 Btu
MMCF = 1,000,000 Cubic Feet of Gas

Potential Throughput (MMCF) = Heat Input Capacity (MMBtu/hr) x 8,760 hrs/yr x 1 MMCF/1,000 MMBtu
Emission Factors are from AP 42, Chapter 1.4, Tables 1.4-1, 1.4-2, 1.4-3, SCC #1-02-006-02, 1-01-006-02, 1-03-006-02, and 1-03-006-03 (SUPPLEMENT D 3/98)
Emission (tons/yr) = Throughput (MMCF/yr) x Emission Factor (lb/MMCF)/2,000 lb/ton
See page 2 for HAPs emissions calculations.

Appendix A: Emissions Calculations
Natural Gas Combustion Only
MM BTU/HR <100
Ovens and Heaters
HAPs Emissions

Company Name: Ventline
Address City IN Zip: 902 South Division St., Bristol, IN 46507
CP: 039-12332-00070
Plt ID: 039-00070
Reviewer: ERG/jtw
Date: July 6, 2000

HAPs - Organics

	Benzene	Dichlorobenzene	Formaldehyde	Hexane	Toluene
Emission Factor in lb/MMcf	2.1E-03	1.2E-03	7.5E-02	1.8E+00	3.4E-03
Potential Emission in tons/yr	1.012E-04	5.782E-05	3.614E-03	8.672E-02	1.638E-04

HAPs - Metals

	Lead	Cadmium	Chromium	Manganese	Nickel
Emission Factor in lb/MMcf	5.0E-04	1.1E-03	1.4E-03	3.8E-04	2.1E-03
Potential Emission in tons/yr	2.409E-05	5.300E-05	6.745E-05	1.831E-05	1.012E-04

Methodology is the same as page 1.

The five highest organic and metal HAPs emission factors are provided above.
Additional HAPs emission factors are available in AP-42, Chapter 1.4.

Appendix A: Emissions Calculations
VOC and Particulate
From Sealant and Adhesive Operations

Company Name: Ventline
Address City IN Zip: 902 South Division St., Bristol, IN 46507
CP: 039-12332-00070
Plt ID: 039-00070
Reviewer: ERG/jtw
Date: July 27, 2000

Material	Density (Lb/Gal)	Weight % Volatile (H20 & Organics)	Weight % Water	Weight % Organics	Volume % Water	Volume % Non-Volatiles (solids)	Gal of Mat. (gal/unit)	Maximum (unit/hour)	Pounds VOC per gallon of coating less water	Pounds VOC per gallon of coating	Potential VOC pounds per hour	Potential VOC pounds per day	Potential VOC tons per year	Particulate Potential (ton/yr)	lb VOC/gal solids	Transfer Efficiency
Black Sealant	8.2	40.60%	0.0%	40.6%	0.0%	0.00%	0.00245	300.000	3.33	3.33	2.45	58.73	10.72	0.00	ERR	100%
Nitrile Adhesive	7.4	70.00%	0.0%	70.0%	0.0%	0.00%	0.00110	375.000	5.15	5.15	2.13	51.00	9.31	0.00	ERR	100%
Acrylic Seam Sealer C1	8.3	42.00%	0.0%	42.0%	0.0%	0.00%	0.00500	6.000	3.47	3.47	0.10	2.49	0.46	0.00	ERR	100%
Acrylic Seam Sealer C2	8.3	42.00%	0.0%	42.0%	0.0%	0.00%	0.00005	40.000	3.47	3.47	0.01	0.17	0.03	0.00	ERR	100%
	0.0	0.00%	0.0%	0.0%	0.0%	0.00%	0.00000	0.000	0.00	0.00	0.00	0.00	0.00	0.00	ERR	0%
	0.0	0.00%	0.0%	0.0%	0.0%	0.00%	0.00000	0.000	0.00	0.00	0.00	0.00	0.00	0.00	ERR	0%
	0.0	0.00%	0.0%	0.0%	0.0%	0.00%	0.00000	0.000	0.00	0.00	0.00	0.00	0.00	0.00	ERR	0%
	0.0	0.00%	0.0%	0.0%	0.0%	0.00%	0.00000	0.000	0.00	0.00	0.00	0.00	0.00	0.00	ERR	0%
	0.0	0.00%	0.0%	0.0%	0.0%	0.00%	0.00000	0.000	0.00	0.00	0.00	0.00	0.00	0.00	ERR	0%
	0.0	0.00%	0.0%	0.0%	0.0%	0.00%	0.00000	0.000	0.00	0.00	0.00	0.00	0.00	0.00	ERR	0%
	0.0	0.00%	0.0%	0.0%	0.0%	0.00%	0.00000	0.000	0.00	0.00	0.00	0.00	0.00	0.00	ERR	0%
Potential Emissions			**Totals**								**4.68**	**112.39**	**20.51**	**0.00**		

METHODOLOGY

Pounds of VOC per Gallon Coating less Water = (Density (lb/gal) * Weight % Organics) / (1-Volume % water)
Pounds of VOC per Gallon Coating = (Density (lb/gal) * Weight % Organics)
Potential VOC Pounds per Hour = Pounds of VOC per Gallon coating (lb/gal) * Gal of Material (gal/unit) * Maximum (units/hr)
Potential VOC Pounds per Day = Pounds of VOC per Gallon coating (lb/gal) * Gal of Material (gal/unit) * Maximum (units/hr) * (24 hr/day)
Potential VOC Tons per Year = Pounds of VOC per Gallon coating (lb/gal) * Gal of Material (gal/unit) * Maximum (units/hr) * (8760 hr/yr) * (1 ton/2000 lbs)
Particulate Potential Tons per Year = (units/hour) * (gal/unit) * (lbs/gal) * (1- Weight % Volatiles) * (1-Transfer efficiency) *(8760 hrs/yr) *(1 ton/2000 lbs)
Pounds VOC per Gallon of Solids = (Density (lbs/gal) * Weight % organics) / (Volume % solids)
Total = Worst Coating + Sum of all solvents used

Appendix A: Emissions Calculations
VOC and Particulate
From Powder Paint Operations

Company Name: Ventline
Address City IN Zip: 902 South Division St., Bristol, IN 46507
CP: 039-1233200070
Plt ID: 039-00070
Reviewer: ERG/jtw
Date: July 6, 200(

Material	Density (Lb/Gal)	Weight % Volatile (H20 & Organics)	Weight % Water	Weight % Organics	Volume % Water	Volume % Non-Volatiles (solids)	Lbs material/hour	Maximum (unit/hour)	Pounds VOC per gallon of coating less water	Pounds VOC per gallon of coating	Potential VOC pounds per hour	Potential VOC pounds per day	Potential VOC tons per year	Particulate Potential (ton/yr)	lb VOC/gal solids	Transfer Efficiency
Powder Paint*	NA	0.00%	0.0%	0.0%	0.0%	0.00%	62.00000	1.000	0.00	0.00	0.00	0.00	0.00	67.89	ERR	75%
	0.0	0.00%	0.0%	0.0%	0.0%	0.00%	0.00000	0.000	0.00	0.00	0.00	0.00	0.00	0.00	ERR	0%
	0.0	0.00%	0.0%	0.0%	0.0%	0.00%	0.00000	0.000	0.00	0.00	0.00	0.00	0.00	0.00	ERR	0%
	0.0	0.00%	0.0%	0.0%	0.0%	0.00%	0.00000	0.000	0.00	0.00	0.00	0.00	0.00	0.00	ERR	0%
	0.0	0.00%	0.0%	0.0%	0.0%	0.00%	0.00000	0.000	0.00	0.00	0.00	0.00	0.00	0.00	ERR	0%
	0.0	0.00%	0.0%	0.0%	0.0%	0.00%	0.00000	0.000	0.00	0.00	0.00	0.00	0.00	0.00	ERR	0%
	0.0	0.00%	0.0%	0.0%	0.0%	0.00%	0.00000	0.000	0.00	0.00	0.00	0.00	0.00	0.00	ERR	0%

: Potential Emissions **Add worst case coating to all solvents** **0.00** **0.00** **0.00** **67.89**

* Includes white, black, almond, matte black and mahogany. All paints have the same PM content (100%)

METHODOLOGY

Pounds of VOC per Gallon Coating less Water = (Density (lb/gal) * Weight % Organics) / (1-Volume % water)
Pounds of VOC per Gallon Coating = (Density (lb/gal) * Weight % Organics)
Potential VOC Pounds per Hour = Pounds of VOC per Gallon coating (lb/gal) * Gal of Material (gal/unit) * Maximum (units/hr)
Potential VOC Pounds per Day = Pounds of VOC per Gallon coating (lb/gal) * Gal of Material (gal/unit) * Maximum (units/hr) * (24 hr/day)
Potential VOC Tons per Year = Pounds of VOC per Gallon coating (lb/gal) * Gal of Material (gal/unit) * Maximum (units/hr) * (8760 hr/yr) * (1 ton/2000 lbs)
Particulate Potential Tons per Year = (units/hour) * (gal/unit) * (lbs/gal) * (1- Weight % Volatiles) * (1-Transfer efficiency) *(8760 hrs/yr) *(1 ton/2000 lbs)
Pounds VOC per Gallon of Solids = (Density (lbs/gal) * Weight % organics) / (Volume % solids)
Total = Worst Coating + Sum of all solvents used

Appendix A: Emission Calculations
HAP Emission Calculations

Company Name: Ventline
Address City IN Zip: 902 South Division St., Bristol, IN 46507
CP#: 039-12332-00070
Plt ID: 039-00070
Permit Reviewer: ERG/jtw
Date: July 27, 2000

Material	Density (Lb/Gal)	Gallons of Material (gal/unit)	Maximum (unit/hour)	Weight % MEK	Weight % Toluene	Weight % Xylene	Weight % cresol	Weight % formaldehyde	Weight % Phenol	MEK Emissions (ton/yr)	Toluene Emissions (ton/yr)	Xylene Emissions (ton/yr)	Cresol Emissions (ton/yr)	Formaldehyde Emissions (ton/yr)	Phenol Emissions (ton/yr)
Black Sealant	8.2	0.002450	300.00	0.00%	1.22%	1.22%	0.00%	0.00%	0.00%	0.00	0.32	0.32	0.00	0.00	0.00
Nitrile Adhesive	7.35	0.001100	375.00	30.00%	10.00%	0.00%	0.56%	0.14%	1.68%	3.98	1.33	0.00	0.07	0.02	0.22
Acrylic Seam Sealer C1	8.33	0.005000	6.00	0.00%	42.00%	0.00%	0.00%	0.00%	0.00%	0.00	0.03	0.00	0.00	0.00	0.00
Acrylic Seam Sealer C2	8.33	0.000050	40.00	0.00%	42.00%	0.00%	0.00%	0.00%	0.00%	0.00	0.03	0.00	0.00	0.00	0.00
Total State Potential Emissions										**3.98**	**1.71**	**0.32**	**0.07**	**0.02**	**0.22**

METHODOLOGY

HAPS emission rate (tons/yr) = Density (lb/gal) * Gal of Material (gal/unit) * Maximum (unit/hr) * Weight % HAP * 8760 hrs/yr * 1 ton/2000 lbs

Appendix A: Emissions Calculations
Welding

Company Name: Philips Products Ventline Division
Address City IN Zip: 902 So. Division St.
CP: 039-12332-00070
Plt ID: 039-00070
Reviewer: ERG/KM
Date: 08/30/2000

PROCESS WELDING	Number of Stations	Max. electrode consumption per station (lbs/hr)		Emission Factors (lb pollutant/lb electrode)		Emissions (lbs/hr)	
				PM = PM10	Mn	PM = PM10	Mn
Resistance welding - steel	1	13.9		0.0211	0.0009	0.293	0.013
Resistance welding - aluminum	1	0.37		0.072		0.027	0.000
EMISSION TOTALS							
Potential Emissions lbs/hr						0.32	0.013
Potential Emissions lbs/day						7.68	0.30
Potential Emissions tons/year						1.40	0.05

METHODOLOGY

This source uses resistance welding in all of its welding operations. In order to calculate emissions, the volume of material melted was calculated and multiplied by the density of the material to determine the pounds of material melted. This was used as a surrogate for the pounds of electrode used in stick welding. The emission factor for stick welding (E7018) electrode was used for the resistance welding on steel and a factor developed by AWS was used for the resistance welding on aluminum (see below for source citation).

Using AWS average values: (0.25 g/min)/(3.6 m/min) x (0.0022 lb/g)/(39.37 in./m) x (1,000 in.) = 0.0039 lb/1,000 in. cut, 8 mm thick
Welding emissions, lb/hr: (# of stations)(max. lbs of electrode used/hr/station)(emission factor, lb. pollutant/lb. of electrode used)
Emissions, lbs/day = emissions, lbs/hr x 24 hrs/day
Emissions, tons/yr = emissions, lb/hr x 8,760 hrs/year x 1 ton/2,000 lbs.

The emission factor for welding with a carbon steel electrode are from an internal training session document. The emission factor for welding with an aluminum electrode are from the following source:

Section 313 Reporting: Clarification and Guidance for the Metal Fabrication Industry, Office of Toxic Substances, USEPA, Jan. 1990.

Refer to AP-42, Chapter 12.19 for additional emission factors for welding.